RAW SEQUENCE LISTING DATE: 05/06/2003
PATENT APPLICATION: US/09/652,292C TIME: 12:01:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\05062003\I652292C.raw

<110> APPLICANT: Bowden, Donald W.
Dawson, Paul A.
Fossey, Sallyanne C.
<120> TITLE OF INVENTION: GLUT10: A Novel Glucose Transporter in the Type 2 Diabetes Linked
Region of Chromosome 20Q12-13.1
<130> FILE REFERENCE: 9151-11
<140> CURRENT APPLICATION NUMBER: US 09/652,292C
<141> CURRENT FILING DATE: 2000-08-31
<160> NUMBER OF SEQ ID NOS: 43
<170> SOFTWARE: PatentIn version 3.2
<210> SEQ ID NO: 1
<211> LENGTH: 4395
<212> TYPE: DNA
<213> ORGANISM: Homo sapiens
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (250)..(1875)
<400> SEQUENCE: 1


```
gaggggtcc ttgccaggcc tggggcggcc gggggcggtc ctgggctccc ctccgtcccg     60
cctccaggcc tcggggcctg gctggccgac gtggcgttgg cggcgctgcg cgcgggaggg    120
cagggcagga gggacagagg cgggggcggg ccggaaagtt tgtccggcgg cagcggcgtt    180
ggggactccg gcgggggatg cgcgcccggc ccctcagcgc ccccagcacg ccgccgagtc    240
ccgctcgcc atg ggc cac tcc cca cct gtc ctg cct ttg tgt gcc tct gtg     291
          Met Gly His Ser Pro Pro Val Leu Pro Leu Cys Ala Ser Val
          1               5                  10
tct ttg ctg ggt ggc ctg acc ttt ggt tat gaa ctg gca gtc ata tca      339
Ser Leu Leu Gly Gly Leu Thr Phe Gly Tyr Glu Leu Ala Val Ile Ser
15                  20                  25                  30
ggt gcc ctg ctg cca ctg cag ctt gac ttt ggg cta agc tgc ttg gag      387
Gly Ala Leu Leu Pro Leu Gln Leu Asp Phe Gly Leu Ser Cys Leu Glu
                35                  40                  45
cag gag ttc ctg gtg ggc agc ctg ctc ctg ggg gct ctc ctc gcc tcc      435
Gln Glu Phe Leu Val Gly Ser Leu Leu Leu Gly Ala Leu Leu Ala Ser
            50                  55                  60
ctg gtt ggt ggc ttc ctc att gac tgc tat ggc agg aag caa gcc atc      483
Leu Val Gly Gly Phe Leu Ile Asp Cys Tyr Gly Arg Lys Gln Ala Ile
        65                  70                  75
ctc ggg agc aac ttg gtg ctg ctg gca ggc agc ctg acc ctg ggc ctg      531
Leu Gly Ser Asn Leu Val Leu Leu Ala Gly Ser Leu Thr Leu Gly Leu
    80                  85                  90
gct ggt tcc ctg gcc tgg ctg gtc ctg ggc cgc gct gtg gtt ggc ttc      579
Ala Gly Ser Leu Ala Trp Leu Val Leu Gly Arg Ala Val Val Gly Phe
95                  100                 105                 110
```

RAW SEQUENCE LISTING DATE: 05/06/2003
PATENT APPLICATION: US/09/652,292C TIME: 12:01:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\05062003\I652292C.raw

```
66 gcc att tcc ctc tcc tcc atg gct tgc tgt atc tac gtg tca gag ctg      627
67 Ala Ile Ser Leu Ser Ser Met Ala Cys Cys Ile Tyr Val Ser Glu Leu
68                 115                 120                 125
70 gtg ggg cca cgg cag cgg gga gtg ctg gtg tcc ctc tat gag gca ggc      675
71 Val Gly Pro Arg Gln Arg Gly Val Leu Val Ser Leu Tyr Glu Ala Gly
72             130                 135                 140
74 atc acc gtg ggc atc ctg ctc tcc tat gcc ctc aac tat gca ctg gct      723
75 Ile Thr Val Gly Ile Leu Leu Ser Tyr Ala Leu Asn Tyr Ala Leu Ala
76         145                 150                 155
78 ggt acc ccc tgg gga tgg agg cac atg ttc ggc tgg gcc act gca cct      771
79 Gly Thr Pro Trp Gly Trp Arg His Met Phe Gly Trp Ala Thr Ala Pro
80     160                 165                 170
82 gct gtc ctg caa tcc ctc agc ctc ctc ttc ctc cct gct ggt aca gat      819
83 Ala Val Leu Gln Ser Leu Ser Leu Leu Phe Leu Pro Ala Gly Thr Asp
84 175                 180                 185                 190
86 gag act gca aca cac aag gac ctc atc cca ctc cag gga ggt gag gcc      867
87 Glu Thr Ala Thr His Lys Asp Leu Ile Pro Leu Gln Gly Gly Glu Ala
88                 195                 200                 205
90 ccc aag ctg ggc ccg ggg agg cca cgg tac tcc ttt ctg gac ctc ttc      915
91 Pro Lys Leu Gly Pro Gly Arg Pro Arg Tyr Ser Phe Leu Asp Leu Phe
92             210                 215                 220
94 agg gca cgc gat aac atg cga ggc cgg acc aca gtg ggc ctg ggg ctg      963
95 Arg Ala Arg Asp Asn Met Arg Gly Arg Thr Thr Val Gly Leu Gly Leu
96         225                 230                 235
98 gtg ctc ttc cag caa cta aca ggg cag ccc aac gtg ctg tgc tat gcc     1011
99 Val Leu Phe Gln Gln Leu Thr Gly Gln Pro Asn Val Leu Cys Tyr Ala
100     240                 245                 250
102 tcc acc atc ttc agc tcc gtt ggt ttc cat ggg gga tcc tca gcc gtg     1059
103 Ser Thr Ile Phe Ser Ser Val Gly Phe His Gly Gly Ser Ser Ala Val
104 255                 260                 265                 270
106 ctg gcc tct gtg ggg ctt ggc gca gtg aag gtg gca gct acc ctg acc     1107
107 Leu Ala Ser Val Gly Leu Gly Ala Val Lys Val Ala Ala Thr Leu Thr
108                 275                 280                 285
110 gcc atg ggg ctg gtg gac cgt gca ggc cgc agg gct ctg ttg cta gct     1155
111 Ala Met Gly Leu Val Asp Arg Ala Gly Arg Arg Ala Leu Leu Leu Ala
112             290                 295                 300
114 ggc tgt gcc ctc atg gcc ctg tcc gtc agt ggc ata ggc ctc gtc agc     1203
115 Gly Cys Ala Leu Met Ala Leu Ser Val Ser Gly Ile Gly Leu Val Ser
116         305                 310                 315
118 ttt gcc gtg ccc atg gac tca ggc cca agc tgt ctg gct gtg ccc aat     1251
119 Phe Ala Val Pro Met Asp Ser Gly Pro Ser Cys Leu Ala Val Pro Asn
120     320                 325                 330
122 gcc acc ggg cag aca ggc ctc cct gga gac tct ggc ctg ctg cag gac     1299
123 Ala Thr Gly Gln Thr Gly Leu Pro Gly Asp Ser Gly Leu Leu Gln Asp
124 335                 340                 345                 350
126 tcc tct cta cct ccc att cca agg acc aat gag gac caa agg gag cca     1347
127 Ser Ser Leu Pro Pro Ile Pro Arg Thr Asn Glu Asp Gln Arg Glu Pro
128                 355                 360                 365
130 atc ttg tcc act gct aag aaa acc aag ccc cat ccc aga tct gga gac     1395
```

RAW SEQUENCE LISTING DATE: 05/06/2003
PATENT APPLICATION: US/09/652,292C TIME: 12:01:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\05062003\I652292C.raw

```
131 Ile Leu Ser Thr Ala Lys Lys Thr Lys Pro His Pro Arg Ser Gly Asp
132             370                 375                 380
134 ccc tca gcc cct cct cgg ctg gcc ctg agc tct gcc ctc cct ggg ccc     1443
135 Pro Ser Ala Pro Pro Arg Leu Ala Leu Ser Ser Ala Leu Pro Gly Pro
136         385                 390                 395
138 cct ctg ccc gct cgg ggg cat gca ctg ctg cgc tgg acc gca ctg ctg     1491
139 Pro Leu Pro Ala Arg Gly His Ala Leu Leu Arg Trp Thr Ala Leu Leu
140     400                 405                 410
142 tgc ctg atg gtc ttt gtc agt gcc ttc tcc ttt ggg ttt ggg cca gtg     1539
143 Cys Leu Met Val Phe Val Ser Ala Phe Ser Phe Gly Phe Gly Pro Val
144 415                 420                 425                 430
146 acc tgg ctt gtc ctc agc gag atc tac cct gtg gag ata cga gga aga     1587
147 Thr Trp Leu Val Leu Ser Glu Ile Tyr Pro Val Glu Ile Arg Gly Arg
148                 435                 440                 445
150 gcc ttc gcc ttc tgc aac agc ttc aac tgg gcg gcc aac ctc ttc atc     1635
151 Ala Phe Ala Phe Cys Asn Ser Phe Asn Trp Ala Ala Asn Leu Phe Ile
152             450                 455                 460
154 agc ctc tcc ttc ctc gat ctc att ggc acc atc ggc ttg tcc tgg acc     1683
155 Ser Leu Ser Phe Leu Asp Leu Ile Gly Thr Ile Gly Leu Ser Trp Thr
156         465                 470                 475
158 ttc ctg ctc tac gga ctg acc gct gtc ctc ggc ctg ggc ttc atc tat     1731
159 Phe Leu Leu Tyr Gly Leu Thr Ala Val Leu Gly Leu Gly Phe Ile Tyr
160     480                 485                 490
162 tta ttt gtt cct gaa aca aaa ggc cag tcg ttg gca gag ata gac cag     1779
163 Leu Phe Val Pro Glu Thr Lys Gly Gln Ser Leu Ala Glu Ile Asp Gln
164 495                 500                 505                 510
166 cag ttc cag aag aga cgg ttc acc ctg agc ttt ggc cac agg cag aac     1827
167 Gln Phe Gln Lys Arg Arg Phe Thr Leu Ser Phe Gly His Arg Gln Asn
168                 515                 520                 525
170 tcc act ggc atc ccg tac agc cgc atc gag atc tct gcg gcc tcc tga     1875
171 Ser Thr Gly Ile Pro Tyr Ser Arg Ile Glu Ile Ser Ala Ala Ser
172             530                 535                 540
174 ggaatccgtc tgcctggaat tctggaactg tggctttggc agaccatctc cagcatcctg   1935
176 cttcctaggc cccagagcac aagttccagc tggtcttttg ggagtggccc ctgcccccaa   1995
178 aggtggtttg cttttgctgg ggtaaaaagg atgaaagttt gagaatgccc aattcttcat   2055
180 tttgggtttc aggccctgaa ggttcttgag gatctagttt catgcctcgg tttccccatt   2115
182 gacttggaca tttttgcagt ttttataaga agaatattct atgaagtctt tgttgcccca   2175
184 tggatttttt tcaaagaatc tcaggggtac caatccgggc aggaggtttt tcccgatatc   2235
186 acccctaaat ccaaatgagg atatcatctt ttctaatctc ttttttcaac tggctgggac   2295
188 attttcggaa gggggaagtc tctttttttа ctcttatcat ttttttttтt tgaggtggag   2355
190 tctcattctg ttgcccaggc tggcctgatc ttggctcact gcaacctcca cttcctgggt   2415
192 tcaagcgatt ctcctgcctc agcctcctaa gtagctggga ttacaggcgc gtgccaccac   2475
194 acccagctaa tttatttttа gcagagatgg ggtttcactg tgttggccag gctggtcgtg   2535
196 aactcctgag ctcaagtgat ccacccacct cagcctccca gagtgctagg attacaggcc   2595
198 ttttgactct tttatctgag ttttattgac ccctctaatt ctcttaccca gaatatttat   2655
200 ccttcaccag caactctgac tctttgacgg gaggcctcag ttctagtcct tggtctgctg   2715
202 gtgtcattgc tgtaggaatg accacgggcc tcagtttccc catttgtata atgggaagcc   2775
204 tgtaccaggt cattcttaag atttctcctg actccagtga gctggaattc taaatgctgg   2835
206 tctaggagct gtctccagga tggtgcagga tggctttgcg gaaaggagat gggtttggag   2895
```

RAW SEQUENCE LISTING DATE: 05/06/2003
PATENT APPLICATION: US/09/652,292C TIME: 12:01:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\05062003\I652292C.raw

```
208 gccaacaaac ctgcttgtca atattgcctt tgcctcttgg cagcccttga acttgagtaa   2955
210 ataacaactc cctgaacctc agtttcctca tctgcagaat ggggataatt atgtcccagg   3015
212 ggtatattta gaccctgttt cctttcagga gggtccccag ctggtccagg gcctgggaaa   3075
214 tttctactta tcctcattac ccaggtccct cctttggacc ctgtaaaggg tcagggtgaa   3135
216 tcagatgggg gactgagcaa gtagctatga ctgcagatca tgtaaggaag ggactgacaa   3195
218 gaagctccca gatgctgggg agaatgaaga gctaaaatag atcctaggtg ctggatgctt   3255
220 tgtcatccat gcgtgcacat atgggtgctg gcagagcccc caaggactct ggcctctcga   3315
222 gttctcctat cttctccatt ctagatgctt cccttgtatc cagtgatgtg ctggagctgg   3375
224 ctttgccaag cttgtgagag ctggttgcta cattttcagg atttttacaa gttggtaaac   3435
226 acagccatta taaaaaatta aatgatttaa atttataatt aagtaaatta cattaaaaca   3495
228 aaaaaattat actcaaaatt cattacttaa ttttactacc tgttactatt atctgtgctt   3555
230 ttgaggctat ttctacatag taactcttat ggagacctag gggagacacc gcgcatctct   3615
232 tcctgattcc ccactcaatg acatcatgtt agtctttggt tgcttaactg gctgtgggga   3675
234 gtgtttttgt atcacaaaga ttagagagga ctacacatca gggcttgatt tattgtttgt   3735
236 tgattttcta gacttcagaa catgctggat aaaatgtcag taatgcaaat taaactttaa   3795
238 agtatgtctt gtttgtagcc aatacatggt gtatagcacc aaaaaatgga gggattattc   3855
240 ttccagtagt tgaacactgt catccgtttc agctgacagc tgctcaaatc atttaagaag   3915
242 gagttctgac attcattttc attgttttac ttttgtcttc ctcactagtg taaacaaaaa   3975
244 tttcaaccag cattcatgcc gaacctatac ccattcttca gtgcctagct gtacagttat   4035
246 cagggatttt tattcgtagt ctaattttgt caaatcatgg ccaaatcgca gtgatagttg   4095
248 actttggata caaggtttgg caaaaaaaaa aatattaaca aaatattctg taagaatcaa   4155
250 ttggctatat ggaatttagg ataaagaata tttacaataa agaatattta caataaagag   4215
252 tttattatta tttgtaagtt gtgtgcaaca aacataccct ttatctctgt aaaatttata   4275
254 cacacaaaaa ttaacaaaag attctgtaag aattaattgg ctatatggaa tttaggatag   4335
256 aatatttaca ataaagagta tttacaataa agagtttgtt attatttgta aaaaaaaaaa   4395
259 <210> SEQ ID NO: 2
260 <211> LENGTH: 541
261 <212> TYPE: PRT
262 <213> ORGANISM: Homo sapiens
264 <400> SEQUENCE: 2
266 Met Gly His Ser Pro Pro Val Leu Pro Leu Cys Ala Ser Val Ser Leu
267 1               5                  10                  15
270 Leu Gly Gly Leu Thr Phe Gly Tyr Glu Leu Ala Val Ile Ser Gly Ala
271             20                  25                  30
274 Leu Leu Pro Leu Gln Leu Asp Phe Gly Leu Ser Cys Leu Glu Gln Glu
275         35                  40                  45
278 Phe Leu Val Gly Ser Leu Leu Leu Gly Ala Leu Leu Ala Ser Leu Val
279     50                  55                  60
282 Gly Gly Phe Leu Ile Asp Cys Tyr Gly Arg Lys Gln Ala Ile Leu Gly
283 65                  70                  75                  80
286 Ser Asn Leu Val Leu Leu Ala Gly Ser Leu Thr Leu Gly Leu Ala Gly
287                 85                  90                  95
290 Ser Leu Ala Trp Leu Val Leu Gly Arg Ala Val Val Gly Phe Ala Ile
291             100                 105                 110
294 Ser Leu Ser Ser Met Ala Cys Cys Ile Tyr Val Ser Glu Leu Val Gly
295         115                 120                 125
298 Pro Arg Gln Arg Gly Val Leu Val Ser Leu Tyr Glu Ala Gly Ile Thr
299     130                 135                 140
302 Val Gly Ile Leu Leu Ser Tyr Ala Leu Asn Tyr Ala Leu Ala Gly Thr
```

RAW SEQUENCE LISTING DATE: 05/06/2003
PATENT APPLICATION: US/09/652,292C TIME: 12:01:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\05062003\I652292C.raw

```
303 145                 150                 155                 160
306 Pro Trp Gly Trp Arg His Met Phe Gly Trp Ala Thr Ala Pro Ala Val
307                 165                 170                 175
310 Leu Gln Ser Leu Ser Leu Leu Phe Leu Pro Ala Gly Thr Asp Glu Thr
311             180                 185                 190
314 Ala Thr His Lys Asp Leu Ile Pro Leu Gln Gly Gly Glu Ala Pro Lys
315         195                 200                 205
318 Leu Gly Pro Gly Arg Pro Arg Tyr Ser Phe Leu Asp Leu Phe Arg Ala
319     210                 215                 220
322 Arg Asp Asn Met Arg Gly Arg Thr Thr Val Gly Leu Gly Leu Val Leu
323 225                 230                 235                 240
326 Phe Gln Gln Leu Thr Gly Gln Pro Asn Val Leu Cys Tyr Ala Ser Thr
327                 245                 250                 255
330 Ile Phe Ser Ser Val Gly Phe His Gly Gly Ser Ser Ala Val Leu Ala
331             260                 265                 270
334 Ser Val Gly Leu Gly Ala Val Lys Val Ala Ala Thr Leu Thr Ala Met
335         275                 280                 285
338 Gly Leu Val Asp Arg Ala Gly Arg Arg Ala Leu Leu Leu Ala Gly Cys
339     290                 295                 300
342 Ala Leu Met Ala Leu Ser Val Ser Gly Ile Gly Leu Val Ser Phe Ala
343 305                 310                 315                 320
346 Val Pro Met Asp Ser Gly Pro Ser Cys Leu Ala Val Pro Asn Ala Thr
347                 325                 330                 335
350 Gly Gln Thr Gly Leu Pro Gly Asp Ser Gly Leu Leu Gln Asp Ser Ser
351             340                 345                 350
354 Leu Pro Pro Ile Pro Arg Thr Asn Glu Asp Gln Arg Glu Pro Ile Leu
355         355                 360                 365
358 Ser Thr Ala Lys Lys Thr Lys Pro His Pro Arg Ser Gly Asp Pro Ser
359     370                 375                 380
362 Ala Pro Pro Arg Leu Ala Leu Ser Ser Ala Leu Pro Gly Pro Pro Leu
363 385                 390                 395                 400
366 Pro Ala Arg Gly His Ala Leu Leu Arg Trp Thr Ala Leu Leu Cys Leu
367                 405                 410                 415
370 Met Val Phe Val Ser Ala Phe Ser Phe Gly Phe Gly Pro Val Thr Trp
371             420                 425                 430
374 Leu Val Leu Ser Glu Ile Tyr Pro Val Glu Ile Arg Gly Arg Ala Phe
375         435                 440                 445
378 Ala Phe Cys Asn Ser Phe Asn Trp Ala Ala Asn Leu Phe Ile Ser Leu
379     450                 455                 460
382 Ser Phe Leu Asp Leu Ile Gly Thr Ile Gly Leu Ser Trp Thr Phe Leu
383 465                 470                 475                 480
386 Leu Tyr Gly Leu Thr Ala Val Leu Gly Leu Gly Phe Ile Tyr Leu Phe
387                 485                 490                 495
390 Val Pro Glu Thr Lys Gly Gln Ser Leu Ala Glu Ile Asp Gln Gln Phe
391             500                 505                 510
394 Gln Lys Arg Arg Phe Thr Leu Ser Phe Gly His Arg Gln Asn Ser Thr
395         515                 520                 525
398 Gly Ile Pro Tyr Ser Arg Ile Glu Ile Ser Ala Ala Ser
399     530                 535                 540
```

VERIFICATION SUMMARY DATE: 05/06/2003
PATENT APPLICATION: US/09/652,292C TIME: 12:01:34

Input Set : A:\EP.txt
Output Set: N:\CRF4\05062003\I652292C.raw